

In the Claims

1-34. (canceled)

34 35. (new) An isolated polypeptide consisting of:

- a) amino acids 94-124 (SEQ ID NO: 6) of human OX40L;
- b) amino acids 94-124 (SEQ ID NO: 6) wherein one or more amino acids have been deleted;
- c) amino acids 107-111 (SEQ ID NO: 13) of human OX40L;
- d) a peptide sequence of human OX40L having between 5 and 10 amino acids;
- e) a peptide having the sequence corresponding to 107-116 (SEQ NO ID: 8) or 107-111 (SEQ ID NO: 13) of human OX40L;
- f) an active mutant of a), b), c), d) or e), wherein one or more of the amino acids has been conservatively substituted;
- g) a fusion polypeptide or peptide comprising a), b), c), d), e) or f) and an amino acid sequence belonging to a protein sequence other than human OX40L (SEQ ID NO: 1); or
- h) an active fraction, precursor, salt, or derivative of a), b), c), d), e), f) or g).

35 36. (new) The isolated polypeptide according to claim 35, wherein said fusion polypeptide or peptide comprises the amino acid sequence belonging to one or more of the following protein sequences: membrane-bound proteins, extracellular domains of membrane-bound protein, immunoglobulin constant region, multimerization domains, extracellular proteins, signal peptide-containing proteins, export signal-containing proteins.

36 37. (new) The isolated polypeptide according to claim 35, further comprising a molecule selected from the group consisting of radioactive labels, biotin, fluorescent labels, cytotoxic agents, and drug delivery agents.

~~37~~38. (new) The isolated polypeptide according to claim 35, further comprising a solid support.

~~38~~39. (new) An isolated peptide, peptide mimetic, or a non-peptide mimetic designed on the sequence, the structure or the sequence and structure of an amino acid sequence corresponding to 107-116 (SEQ NO ID: 8) or 107-111 (SEQ ID NO: 13) of human OX40L.

~~39~~40. (new) The isolated peptide, peptide mimetic, or a non-peptide mimetic according to claim 39, further comprising a molecule selected from the group consisting of radioactive labels, biotin, fluorescent labels, cytotoxic agents, and drug delivery agents.

~~40~~41. (new) An isolated nucleic acid encoding a polypeptide according to claim 35.

~~41~~42. (new) A viral or plasmid vector comprising the nucleic acid of claim 41.

~~42~~43. (new) A prokaryotic or eukaryotic host cell which has been transformed with an vector according to claim 42.

~~43~~44. (new) The prokaryotic or eukaryotic host cell according to claim 43, wherein said cell is a stable cell line.

~~44~~45. (new) The prokaryotic or eukaryotic host cell of claim 43 wherein said cell secretes or expresses, on the cell surface, a polypeptide consisting of:

- a) amino acids 94-124 (SEQ ID NO: 6) of human OX40L;
- b) amino acids 94-124 (SEQ ID NO: 6) wherein one or more amino acids have been deleted;
- c) amino acids 107-111 (SEQ ID NO: 13) of human OX40L;
- d) a peptide sequence of human OX40L having between 5 and 10 amino acids;
- e) a peptide having the sequence corresponding to 107-116 (SEQ NO ID: 8) or 107-111 (SEQ ID NO: 13) of human OX40L;

- f) an active mutant of a), b), c), d) or e), wherein one or more of the amino acids has been conservatively substituted; or
- g) a fusion polypeptide or peptide comprising a), b), c), d), e) or f) and an amino acid sequence belonging to a protein sequence other than human OX40L (SEQ ID NO: 1).

45
46. (new) A method of producing a polypeptide comprising culturing cells of claim 43 and isolating or purifying said polypeptide.

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47. (new) A composition comprising a polypeptide according to claim 35 and a pharmaceutically acceptable carrier, excipient, stabilizer, diluent, or combination thereof.

47
48. (new) A screening assay for compounds modulating OX40R-OX40L interactions comprising:

- a) forming a sample comprising the following elements:
 - i) an element constituting an OX40R binding agent;
 - ii) an element constituting the OX40R moiety, chosen from a protein comprising the extracellular domain of OX40R, a cell line expressing OX40R extracellular domain on its surface, or a cell line secreting extracellular domain of OX40R; and
 - iii) compound(s) to be tested as modulator(s) OX40R-OX40L interactions;
- b) detecting, directly or indirectly, the effect of the compounds (iii) on the interactions between the elements (i) and (ii); and
- c) comparing the effect detected in (b) amongst samples different in terms of quality, quantity or both quality and quantity of the elements of (a).

49 (new) The screening assay according to claim 48, wherein said OX40R binding agent is selected from the group consisting of:

- 1) an isolated polypeptide consisting of:
 - a) amino acids 94-124 (SEQ ID NO: 6) of human OX40L;
 - b) amino acids 94-124 (SEQ ID NO: 6) wherein one or more amino acids have been deleted;
 - c) amino acids 107-111 (SEQ ID NO: 13) of human OX40L;
 - d) a peptide sequence of human OX40L having between 5 and 10 amino acids;
 - e) a peptide having the sequence corresponding to 107-116 (SEQ NO ID: 8) or 107-111 (SEQ ID NO: 13) of human OX40L;
 - f) an active mutant of a), b), c), d) or e), wherein one or more of the amino acids has been conservatively substituted;
 - g) a fusion polypeptide or peptide comprising a), b), c), d), e) or f) and an amino acid sequence belonging to a protein sequence other than human OX40L (SEQ ID NO: 1); or
 - h) an active fraction, precursor, salt, or derivative of a), b), c), d), e), f) or g);
- 2) an isolated peptide, peptide mimetic, or a non-peptide mimetic designed on the sequence, the structure or the sequence and structure of an amino acid sequence corresponding to 107-116 (SEQ NO ID: 8) or 107-111 (SEQ ID NO: 13) of human OX40L; or
- 3) a prokaryotic or eukaryotic host secreting or expressing, on the cell surface, a polypeptide consisting of:
 - a) amino acids 94-124 (SEQ ID NO: 6) of human OX40L;
 - b) amino acids 94-124 (SEQ ID NO: 6) wherein one or more amino acids have been deleted;
 - c) amino acids 107-111 (SEQ ID NO: 13) of human OX40L;
 - d) a peptide sequence of human OX40L having between 5 and 10 amino acids;
 - e) a peptide having the sequence corresponding to 107-116 (SEQ NO ID: 8) or 107-111 (SEQ ID NO: 13) of human OX40L;

- f) an active mutant of a), b), c), d) or e), wherein one or more of the amino acids has been conservatively substituted; or
- g) a fusion polypeptide or peptide comprising a), b), c), d), e) or f) and an amino acid sequence belonging to a protein sequence other than human OX40L (SEQ ID NO: 1).

49 50. (new) The screening assay according to claim 49, wherein said polypeptide is attached to a solid support.

50 51. (new) A method of treating a disease or condition comprising the administration of a composition according to claim 47 to an individual in need of treatment.

51 52. (new) A method of detecting OX40R comprising contacting a sample with an OX40R binding agent is selected from the group consisting of:

- 1) an isolated polypeptide consisting of:
 - a) amino acids 94-124 (SEQ ID NO: 6) of human OX40L;
 - b) amino acids 94-124 (SEQ ID NO: 6) wherein one or more amino acids have been deleted;
 - c) amino acids 107-111 (SEQ ID NO: 13) of human OX40L;
 - d) a peptide sequence of human OX40L having between 5 and 10 amino acids;
 - e) a peptide having the sequence corresponding to 107-116 (SEQ NO ID: 8) or 107-111 (SEQ ID NO: 13) of human OX40L;
 - f) an active mutant of a), b), c), d) or e), wherein one or more of the amino acids has been conservatively substituted;
 - g) a fusion polypeptide or peptide comprising a), b), c), d), e) or f) and an amino acid sequence belonging to a protein sequence other than human OX40L (SEQ ID NO: 1); or
 - h) an active fraction, precursor, salt, or derivative of a), b), c), d), e), f) or g);

- 2) an isolated peptide, peptide mimetic, or a non-peptide mimetic designed on the sequence, the structure or the sequence and structure of an amino acid sequence corresponding to 107-116 (SEQ NO ID: 8) or 107-111 (SEQ ID NO: 13) of human OX40L; or
- 3) a prokaryotic or eukaryotic host secreting or expressing, on the cell surface, a polypeptide consisting of:
 - a) amino acids 94-124 (SEQ ID NO: 6) of human OX40L;
 - b) amino acids 94-124 (SEQ ID NO: 6) wherein one or more amino acids have been deleted;
 - c) amino acids 107-111 (SEQ ID NO: 13) of human OX40L;
 - d) a peptide sequence of human OX40L having between 5 and 10 amino acids;
 - e) a peptide having the sequence corresponding to 107-116 (SEQ NO ID: 8) or 107-111 (SEQ ID NO: 13) of human OX40L;
 - f) an active mutant of a), b), c), d) or e), wherein one or more of the amino acids has been conservatively substituted; or
 - g) a fusion polypeptide or peptide comprising a), b), c), d), e) or f) and an amino acid sequence belonging to a protein sequence other than human OX40L (SEQ ID NO: 1).

~~53~~^{53.5} (new) The method according to claim 52, wherein said polypeptide or said isolated peptide, peptide mimetic, or a non-peptide mimetic is attached to a solid support.

~~54~~^{54.5} (new) The method according to claim 53, wherein said sample contains activated CD4⁺ T cells.

~~55~~^{55.5} (new) The method according to claim 53, wherein said sample contains the extracellular domain of OX40R protein as membrane-bound or a soluble protein.

55 56. (new) A method of antagonizing the activity of OX40L comprising contacting a composition according to claim 47 with a composition containing OX40R .